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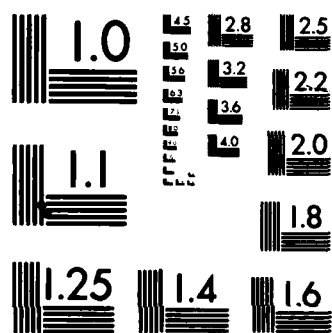
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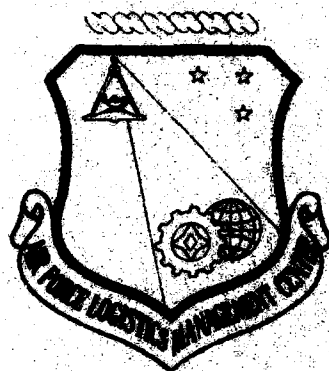




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# AIR FORCE LOGISTICS MANAGEMENT CENTER

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FEASIBILITY OF AUTOMATING AFR 71-4

CAPTAIN VAUGHN WASEM

AFLMC PROJECT LT850405

JANUARY 1986

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# ABSTRACT

The objective of this project was to determine the feasibility of automating AFR 71-4, Preparation of Hazardous Materials for Military Air Shipment. The intent is to automatically extract critical data applicable to each shipment of hazardous material and then automatically generate the Special Handling Data/Certification document, DD Form 1387-2. Results of the study indicate it is feasible to develop such a program and a recommendation was made for the Air Force Logistics Management Center to begin work on the effort.

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## EXECUTIVE SUMMARY

HQ TAC/LGT, through HQ USAF/LET, requested the AFLMC evaluate the feasibility of automating AFR 71-4, Preparation of Hazardous Materials for Air Shipment, with the intent to automatically generate DD Form 1387-2, Special Handling Data/Certification.

A study of current projects determined a similar effort was not being worked by any other agency. Further analysis of the problem determined automating AFR 71-4 was both feasible and practical given the criteria in the latest draft version (anticipate formal approval 2nd quarter FY86) of AFR 71-4.

We recommend a project to automate AFR 71-4 and develop a system to automatically produce completed DD Forms 1387-2.

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## CHAPTER I

### THE PROBLEM

#### BACKGROUND

This project was originated and sponsored by HQ TAC/LG. HQ USAF/LET co-sponsored the project. AFR 71-4, Preparation of Hazardous Materials for Military Air Shipment, is extremely difficult and time consuming to use. One of the primary reasons the regulation is difficult to use is the need to continually cross-reference numerous chapters, appendices, figures, and tables in order to determine the various constraints and cautions associated with a hazardous material shipment. When preparing the DD Form 1387-2, Special Handling Data/Certification, absolute accuracy is essential because it involves aircrew safety and protection of aircraft.

#### OBJECTIVE

The objective of this project was to determine the feasibility of automating AFR 71-4, "Preparation of Hazardous Materials for Military Air Shipment", with the intent of automatically extracting critical data concerning hazardous material shipments and then automatically generating the Special Handling Data/Certification document, DD Form 1387-2.

## CHAPTER II

### DEVELOPMENT

#### APPROACH

This project was accomplished in two parts: (1) we conducted a search to determine if any other organization was working a similar project and (2) we evaluated the problems to determine if automating the critical data necessary to complete a DD 1387-2 was feasible and practical.

To accomplish the first portion of the study, we contacted organizations we believed were the most likely to work on a project similar to the proposal. Contact was made with HQ AFLC, HQ MAC, Defense Logistics Agency/Memphis (DLA), and the Data Systems Design Office (DSDO). DLA was contacted, since this agency is involved in applying and testing LOGMARS technology to the shipment of hazardous materials.

To complete the second part, one transportation functional analyst and one programmer traveled to Wright-Patterson AFB to talk to the Packaging Policy Division (DSTP) at HQ AFLC. This office is responsible for the maintenance of AFR 71-4 and are the experts on its use.

#### RESULTS

We determined a number of initiatives existed which related to the proposed effort. Those included; Stock Control and Distribution System (AFLC), On-line Cargo Movement System (DSDO), Freight Documentation Automation (AFLMC), Consolidated Aerial Port System (MAC), and Cargo Movement LOGMARS Modular Development (AFLC and DLA). Although each of these efforts is indirectly associated with the proposal, none would be a direct duplication of effort if the TAC proposal were undertaken. One initiative in work by HQ AFLC, however, could greatly reduce programming time and effort in the event a program is written. The AFLC initiative is to take the entire regulation and put it on word processing equipment. Completion of this effort (Jan 86) will eliminate the need for AFLMC to manually key in the database of hazardous materials since Chapter 4 of AFR 71-4 could easily be modified to stand as a database. Not only would this effort eliminate rekeying of information, but it also would eliminate the possibility of introducing new errors into the database by the rekeying process.

We examined AFR 71-4, dated 6 November 1981, and determined it would be difficult to automate due to the human interaction needed to complete the Supplemental Information block (Key 8) of DD Form 1387-2. This block of the form contains information that is not always straight forward and often requires a decision only a trained expert can offer. Under the existing regulation, automation is not considered feasible. However, Mr Carl Burman, HQ AFLC/DSTP, informed us a new version of AFR 71-4 was being circulated for approval and the new draft was more lenient on the information required in the Supplemental Information block. We examined the new draft version and found fewer instances where Key 8 information was required. We believe the supplemental information requirements under the new regulation will be reduced



## CHAPTER III

### CONCLUSIONS AND RECOMMENDATIONS

#### CONCLUSIONS

The proposed HQ TAC/LG project does not conflict or duplicate the effort of any projects examined during our research.

Writing a computer program to automate AFR 71-4 and automatically generate DD Form 1387-2 is feasible and practical.

#### RECOMMENDATION

Recommend the AFLMC be tasked to automate AFR 71-4 to include the capability of automatically generating DD Forms 1387-2, Special Handling Data/Certification. (OPR: HQ TAC/LG; OCR: HQ USAF/LET)

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